

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A substrate comprising:

a fibrous material; and

a photocatalytic coating material coating at least a portion of the fibrous material and including a photocatalytic semi-conducting material and an adhesion promoter for promoting adhesion to the fibrous material,

wherein the photocatalytic semi-conducting material comprises titanium oxide which is at least partly ~~crystalized~~ crystallized in anatase form and the photocatalytic coating material coats fibers in the portion of the fibrous material over a thickness of between 30 and 50 nm, which is equal to a mean size of crystallites of the at least partly crystallized titanium oxide in anatase form.

Claim 2 (Previously Presented): The substrate according to Claim 1, wherein the titanium oxide is in a form of one of particles in colloidal suspension and a powder.

Claim 3 (Previously Presented): The substrate according to Claim 1, wherein the photocatalytic semi-conducting material comprises a titanium oxide from one of thermal decomposition of organometallic and at least one metal halide precursor in the photocatalytic coating material.

Claim 4 (Currently Amended): The substrate according to Claim 1, wherein the adhesion promoter comprises at least one of an organic material[[,]] ~~an inorganic material~~[[,]] and an organic/inorganic hybrid material.

Claim 5 (Previously Presented): The substrate according to Claim 1, wherein the adhesion promoter comprises a silicon-comprising component selected from the group consisting of silane, silicone and siloxane.

Claim 6 (Previously Presented): The substrate according to Claim 1, wherein the adhesion promoter comprises at least one organic polymer selected from the group consisting of acrylic polymers and fluorinated polymers.

Claim 7 (Previously Presented): The substrate according to Claim 1, wherein the adhesion promoter comprises at least one oxide selected from the group consisting of TiO_2 and SiO_2 from one of thermal decomposition of silicon-comprising, organometallic or metal halide precursor(s) within the photocatalytic coating material.

Claim 8 (Previously Presented): The substrate according to Claim 1, wherein the adhesion promoter comprises at least one inorganic component selected from the group consisting of aluminium phosphates, potassium aluminosilicates and calcium aluminosilicates.

Claim 9 (Previously Presented): The substrate according to Claim 1, wherein the adhesion promoter forms part of a binder providing cohesion of the fibrous material.

Claim 10 (Previously Presented): The substrate according to Claim 1, wherein the fibrous material comprises at least one of insulation mineral wool and reinforcing glass strands.

Claim 11 (Previously Presented): The substrate according to Claim 1, wherein the fibrous material is one of web, felt, mould, paper and bulk material forms.

Claim 12 (Canceled)

Claim 13 (Currently Amended): A process for manufacturing a substrate, comprising:
depositing a liquid binder to bind fibers and form a fibrous material; and
depositing a photocatalytic coating material in liquid phase over at least a portion of the fibrous material such that the photocatalytic coating material coats fibers in the portion of the fibrous material over a thickness of between 30 and 50 nm, which is equal to a mean size of crystallites of at least partly crystallized titanium oxide in anatase form, the photocatalytic material including a photocatalytic semi-conducting material and an adhesion promoter for promoting adhesion to the fibrous material,
wherein the photocatalytic semi-conducting material comprises titanium oxide at least partially crystallized in anatase form.

Claim 14 (Previously Presented): The process according to Claim 13, wherein the depositing the photocatalytic coating material comprises depositing the photocatalytic coating material downstream of a fiberizing device before heat treatment/conditioning devices.

Claim 15 (Previously Presented): The process according to Claim 13, wherein the depositing the photocatalytic coating material comprises depositing the photocatalytic material while the fibrous material is being formed into mats.

Claim 16 (Currently Amended): The process according to Claim 13, wherein the depositing the photocatalytic coating material ~~comprising~~ comprises depositing the photocatalytic coating material after converting the fibrous material into a finished product and before subjecting the finished product to a heat treatment.

Claim 17 (Previously Presented): The process according to Claim 13, wherein the depositing the photocatalytic coating material comprises one of spraying, coating and dip coating.

Claim 18 (Previously Presented): The substrate according to Claim 1, wherein the fibrous material comprises one of a thermal insulation material, a sound insulation material, a liquid filter, a gas filter, a purifier, and a diffuser.

Claim 19 (Canceled).

Claim 20 (Previously Presented): The substrate according to Claim 1, wherein the adhesive promoter further comprises at least one additive selected from the group consisting of an antioxidant, an ultraviolet absorber and a hindered amine light stabilizer.

Claim 21 (Previously Presented): The substrate according to Claim 1, wherein the adhesion promoter comprises at least one of an inorganic material and an organic/inorganic hybrid material.

Claim 22 (Currently Amended): A substrate comprising:
a fibrous material; and

a photocatalytic coating material coating at least a portion of the fibrous material and including a photocatalytic semi-conducting material and an adhesion promoter for promoting adhesion to the fibrous material, the photocatalytic semi-conducting material comprising a sulphide material, wherein the photocatalytic coating material coats fibers in the portion of the fibrous material over a thickness of between 30 and 50 nm, which is equal to a mean size of crystallites of a partly crystallized titanium oxide in anatase form.

Claim 23 (Previously Presented): The substrate according to Claim 22, wherein the sulfide material is selected from the group consisting of zinc sulfide and boron sulfide.